

quality of 1.5 Mbps video, but will ease the entry of a 5 Mbps competitor to the cable industry.

- the attempt will prove not to be viable, but various niche markets will be identified, which can be profitably served by LWBS when the telephone company withdraws and in other geographical areas where video dial-tone has not been introduced.

There are other possibilities, too. The main point is that an energetic telephone company initiative in video dial-tone could well provide low risk opportunities for LWBS.

Direct Sales by the Movie Industry

Regardless of what happens with video dial-tone, the cable industry is expected to provide video-nearly-on-demand using digital compression over 5 Mbps circuits. (Compression will be employed so as to provide the necessary increase in capacity.) Once this technology has been established in the market, there will be other interesting possibilities. It is no secret that movie studios would like to cut out the rapacious (as they see it) cable middleman. While it is essential not to underestimate the challenge of creating a new distribution system (in a marketing sense), it is clear that the possible synergy between the film industry and a residential LWBS operating at 5 Mbps per channel must be explored. Nor would it be necessary to wait for the 5 Mbps codecs to become affordable; LWBS could provide residential service with analog transmission, though offering fewer channels.

VIII. CONCLUSIONS

The particular nature of the U.S. telecommunications market at this point in its history provides LWBS with four distinct advantages of very high significance:

- There are specific, established markets in which it would enjoy a competitive advantage immediately and other potentially highly profitable markets it can target in the near future
- The more rapidly local telephone companies seek to upgrade their infrastructure and the more rapid the growth in the mobile services market, the greater the market for LWBS
- From a public policy standpoint, it meets an urgent need and should therefore be well placed in the regulatory context
- As an asset, its spectrum "real estate" will continue to grow in value, the more so since LWBS can use it to provide transmission for almost any fixed point application.

Target Markets

LWBS is in no sense dependent on applications and end-user services which have yet to establish themselves. The following markets exist now and are growing rapidly:

- local digital private lines
 - . employed to reduce costs
 - . employed to achieve redundancy
- local ends for two-way videoconferencing, on a dial-up or private line basis

Additionally, there is an almost immediate need for backbone transmission for new mobile services. In the near future, there will be potentially more lucrative, albeit more delay-

seek to deploy integrated digital networks, whether ISDN or optical fiber-based integrated broadband networks (IBNs). One reason is that, if such efforts are successful, they will increase the size of the market for local digital services to support new applications. Given

- it supports, and can be expected to expand the adoption of, applications of importance in improving public and private sector productivity: videoconferencing, interconnection of local area networks, telecommuting, and so on
- it provides an economical platform for the development of new applications. One of the most serious obstacles to "fiber to the home" is a lack of credible applications
- it promotes competition in the local market (certainly the local telephone market, quite possibly the cable television market as well)
- there is no associated problem of cross-subsidy (or pressure to accelerate local exchange carriers' depreciation rates)
- it raises no issues of industrial policy, a matter of serious importance to at least two current FCC commissioners.

To be in the favor of regulators certainly does not guarantee commercial success, but it is unlikely to do any harm. And it can help; it certainly helped the cable television industry at an earlier stage in its history.

The Future Value of the Radio Frequency Spectrum

One of the few certainties about future telecommunications markets is that the radio frequency spectrum will continue to be a very valuable resource. In general, however, the laws of physics dictate that many portions of the spectrum can be used for some applications, but not for others. LWBS, however, is a generic, spectrum-based service which can provide transmission for any application requiring the transport of signals between fixed points in the same locality. This fungibility will make its spectrum rights all the more valuable.

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The purpose of this study was to provide a selective overview of the markets for local transmission services and to make a preliminary identification of potential markets for LWBS. It is clear that choices are available among some attractive options. It is also clear that, at a broad strategic level, it will be excellently matched to the telecommunications marketplace of the 1990's and the early part of the next century.